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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,596	05/03/2001	Kevin S. Marchitto	D6331	8711

7590 03/25/2004

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EXAMINER

MANTIS MERCADER, ELENI M

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 03/25/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/848,596

**Applicant(s)**

MARCHITTO ET AL.

**Examiner**

Eleni Mantis Mercader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 11-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Double Patenting*

1. Claims 8-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-11 of U.S. Patent No. 6,353,753. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are broader in scope in that no contrast agent is claimed and hence anticipated by claims 10-11 of U.S. Patent No. 6,353,753.
2. Claims 1-10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,032,070. Although the conflicting claims are not identical, they are not patentably distinct from each other because they represent obvious alternate variations and groupings.
3. Claims 8-10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 5 of U.S. Patent No. 6,272,374. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are broader in scope in that no contrast agent is claimed and hence anticipated by claims 1 and 5 of U.S. Patent No. 6,272,374.
4. Claims 1-10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-6, 8-9, 11 and 34 of copending Application No. 09/875,497 (as presented in PGPUBS US 2001/0027273; application was not available to Examiner). Although the conflicting claims are not identical, they are not patentably distinct from each other because they represent obvious alternate variations and groupings.

This is a provisional obviousness-type double patenting rejection.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-3 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Crane et al.'046.

Regarding claims 1-3, Crane et al.'046 teach a method of optically imaging subsurface anatomic structures and biomolecules in an individual or animal with red light and infrared radiant energy (col. 2, lines 14-29 and col. 8, lines 32-62), comprising the steps of:

illuminating a region of interest with light from the red to radiant infrared portion of the light spectrum and wherein said region is illuminated with light energy having wavelengths ranging from 600 nm to 1100 nm (col. 8, lines 32-62; referring to preferable illumination with infrared at central peak of 940 nm (0.94  $\mu$ m));

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detecting red and infrared light from said region of interest with a red and infrared light sensitive image detector (col. 5, lines 33-49);

wherein said infrared sensitive image detector detects red and infrared light selected from the group consisting of transmitted light, reflected light, absorbed light, and emitted light (col. 4, line 22; referring to trans-illumination and col. 4, line 47-50 referring to reflection mode).

Regarding claims 8-10, Crane et al.'046 teach a device comprising: a red to radiant infrared light source (col. 8, lines 32-62); a red and infrared sensitive image detector (col. 5, lines 33-49); and, a means to display detected images (col. 5, lines 43-45); the device wherein the light is provided by a source selected from the group consisting of light-emitting diodes (LEDs) filtered with a bandpass filter, diode lasers and filtered broadband illumination (col. 10, lines 7-36); and the device, wherein the detector is selected from the group consisting of a charge-coupled device (CCD) and a CCD video camera (col. 5, lines 33-49; the detector being a CCD device).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crane et al.'046 in view of Svetliza'340.

Regarding claims 5-7, Crane et al.'046 teach all the features of the current invention including a TV monitor except for the expressly stating that the images from the infrared

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sensitive image detector are displayed on a video monitor and further comprising the step of adding an exogenous chromophore to the region of interest, wherein said chromophore is selected from the group consisting of indocyanine Green (ICG) and 6-aminolevulinic acid.

In the same field of endeavor, Svetliza'340 expressly teaches that the images from the infrared sensitive image detector are displayed on a video monitor (col. 5, lines 19-29; referring to RGB video monitor) and further comprising the step of adding an exogenous chromophore to the region of interest, wherein said chromophore is selected from the group consisting of indocyanine Green (ICG) and 6-aminolevulinic acid (see col. 5, lines 64-67 and col. 6, lines 1-22; referring to the use of ICG).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Crane et al.'046 and incorporated the teachings of Svetliza'340 to incorporate the use of the chromophore ICG in order to enhance visualization of the blood vessels which are deeper below the skin surface (see for motivation to combine Svetliza'340 in col. 6, lines 6-10). While Crane et al.'046 states the use of a TV monitor, Svetliza'340 is used because of the expressed statement of a display video monitor.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crane et al.'046 in view of Flock et al.'753.

Crane et al.'046 teaches all the features of the current invention except for the use of a method selected from the group consisting of pulsatile enhanced imaging, confocal enhanced imaging, Raman enhanced imaging, laser speckle enhanced imaging, multiphoton interaction enhanced imaging, optical coherence tomography enhanced imaging, time correlated single

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photon counting enhanced imaging, optical rotary dispersion imaging, circular dichroism imaging, and polarization enhanced imaging.

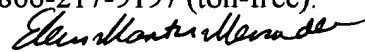
In the same field of endeavor, Flock et al.'753 teach polarization enhanced imaging (see col. 8, lines 13-38).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Crane et al.'046 and incorporated the teachings of Flock et al.'753 in order to further enhance the image (motivation provided by Flock et al.'753 stating enhanced contrast).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is 703 308-0899. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Ruhl can be reached on 703 308-2262. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Eleni Mantis Mercader  
Primary Examiner  
Art Unit 3737

EMM